INDEXES

Volume 20, 1991

The indexes in this issue cover Volumes 1—20

(Figures in bold type refer to the volume number)

INDEX OF AUTHORS

Aarons, L. J., 5, 359 Ackroyd, J., 11, 321 Ager, D. J., 11, 493 Ahlberg, P., 18, 209 Ahluwalia, J. C., 2, 203 Allen, N. S., 4, 533; 15, 373 Alvarez, C., 20, 503 Angyal, S. J., 9, 415 Ambroz, H. B., 8, 353 Atkinson, D., 8, 475 Attygalle, A. B., 13, 245 Audouin, M., 20, 503 Baghurst, D. R., 20, 1 Baker, A. D., 1, 355 Bamfield, P., 13, 443 Barker, B. E., 9, 143 Barrett, A. G. M., 20, 95 Barron, L. D., 15, 261 Bartle, K. D., 10, 113 Bartlett, P. D., 5, 149 Baxendale, J. H., 7, 235 Beattie, I. R., 4, 107 Beddell, C. R., 13, 279 Beer, P., 18, 409 Bell, R. P., 3, 513 Belson, D. J., 11, 41 Bender, C. J., 15, 475; 17, 317 Bentley, P. H., 2, 29 Berkoff, C. E., 3, 273 Billington, D. C., 14, 93; **18**, 83 Bird, C. L., 10, 49 Bird, C. W., 3, 309 Blackburn, B. K., 17, 147 Blandamer, M. J., 4, 55; 14, 137 Blundell, T. L., 6, 139 Boelens, H., 7, 167 Bolton, R., 15, 261 Bond, G. C., **20**, 441 Bowman, W. R., **17**, 283 Bradshaw, T. K., 6, 43 Braterman, P. S., 2, 271 Brennan, J., 17, 1 Bresciani Pahor, N., 18. 225 Breslow, R., 1, 553 Brown, D. H., 9, 217 Brown, I. D., 7, 359

Brown, K. S., jun., 4, 263 Brundle, C. R., 1, 355 Bryce, M. R., 20, 355 Bryce-Smith, D., 15, 93 Brycki, B. E., 19, 83 Buchanan, G. L., 3, 41; Bulman Page, 19, 147 Burdett, J. K., 3, 293; 7, 507 Burgess, J., 4, 55; 14, 137 Burnett, M. G., 12, 267 Burrows, H. D., 3, 139 Burtles, S. M., 7, 201 Butler, A. R., 16, 361 Butterworth, K. R., 7, 185 Cadogan, J. I. G., 3, 87 Cameron, M., 19, 355 Carabine, M. D., 1, 411 Cardin, D. J., 2, 99 Carey, P. R., 19, 293 Carless, H. A. J., 1, 465 Casellato, U., 8, 199 Cetinkaya, B., 2, 99 Chamberlain, J., 4, 569 Chandrasekhar, S., 16, Chatt, J., 1, 121 Chelain, E., 20, 503 Chesters, J. K., 10, 270 Child, M. S., 17, 31 Chisholm, M. H., 14, 69 Chivers, T., 2, 233 Clark, G. M., 5, 269 Clark, R. J. H., 13, 219; 19, 107; 20, 405 Cole-Hamilton, D. J. 20, 49 Collins, C. J., 4, 251 Colvin, E. W., 7, 15 Connelly, N. G., 18, 153 Connor, J. N. L., 5, 125 Corey, E. J., 17, 111 Corfield, G. C., 1, 523 Cornforth, J. W., 2, 1 Cotton, F. A., 4, 27; 12, 35 Coulson, E. H., 1, 495

Covington, A. K., 14, 265 Cowan, J. M., 8, 419 Cox, B. G., 9, 381 Coyle, J. D., 1, 465; 3, 329; 4, 523 Cragg, G. M. L., 6, 393 Craig, D., 16, 187 Cramer, R. D., 3, 273 Crammer, B., 6, 431; 17, 229 Cross, R. J., 2, 271; 9, 185; 14, 197 Curran, D., 20, 391 Curthoys, G., 8, 475 Dack, M. R. J., 4, 211 Dainton, F. S., 4, 323 Dalton, H., 8, 297 Davies, D. I., 8, 171 Davies, H. G., 20, 211, Davies, S. G., 17, 147 Delgado-Reyes, F., 20, 503 Denise, B., 20, 503 de Rijke, D., 7, 167 de Silva, A. P., 10, 181 de Valois, P. J., 7, 167 Dickinson, E., 14, 421 Dickinson, L. C., 12, 387 Dobson, J. C., 5, 79 Dowle, M. D., 8, 171 Doyle, M. J., 2, 99 Drummond, I., 2, 233 Duffield, J. R., 15, 291 Dunkin, I. R., 9, 1 Durant, G. J., 14, 375 Duxbury, G., **12**, 453 Dymond, J. H., **14**, 317 Elliott, M., 7, 473 Emsley, J., 9, 91 Engberts, J. B. F. N., 14, 237 Eschenmoser, A., **5**, 377 Evans, D. A., **2**, 75 Evans, J., 10, 159 Fenby, D. V., 3, 193 Fensham, P. J., 13, 199 Fenton, D. E., 6, 325; 8, 199; 17, 69 Ferguson, L. N., 4, 289

Fisher, L. R., 6, 25 Fleming, I., 10, 83 Flygare, W. H., 6, 109 Forage, A. J., 8, 309 Garson, M. J., 8, 539 Georghiou, P. E., 6, 83 Gheorghiu, M. D., 10, 289 Gibson, K. H., 6, 489 Gilbert, J., 10, 255 Gilchrist, T. L., 12, 53 Gillespie, R. J., 8, 315 Glidewell, C., 16, 361 Goldschmidt, Z., 17, 229 Goodings, E. P., 5, 95 Goodrich, J. A., 14, 225 Gordon, I. M., 18, 123 Gordon, P. F., 13, 443 Gorman, A. A., 10, 205 Gosney, I., 16, 45 Goumont, R., 20, 503 Gowenlock, B. G., 19, 355 Gray, B. F., 5, 359 Gray, H. B., 15, 17 Grebenik, P., 17, 453 Green, C. L., 2, 75 Green, R. H., 20, 211, 271 Greenhill, J. V., 6, 277 Greenwood, N. N., 3, 231; 13, 353 Grey Morgan, C., 8, 367 Grice, R., 11, 1 Griffiths, J., 1, 481 Grigg, R., 16, 89 Grimshaw, J., 10, 181; 20, 391 Grinter, R., 17, 453 Grossert, J. S., 1, 1 Groves, J. K., 1, 73 Guilford, H., 2, 249 Gutteridge, N. J. A., 1, 381 Haines, R. J., 4, 155 Hall, G. G., 2, 21 Hall, L. D., 4, 401 Hall, T. W., 5, 431 Halliwell, H. F., 3, 373 Hamdan, I. Y., 8, 143 Hamer, G., 8, 143 Harmony, M. D., 1, 211 Harris, K. R., 5, 215

Harris, R. K., 5, 1 Harrison, L. G., 10, 491 Hartley, F. R., 2, 163 Hartshorn, S. R., 3, 167 Hathway, D. E., 9, 63, 241 Hayward, R. C., 12, 285 Heaven, M. C., 15, 405 Heelis, P. F., 11, 15 Henderson, J. W., 2, 397 Hepler, L. G., 3, 193 Hilburn, M. E., 8, 63 Hinchliffe, A., 5, 79 Hoffman, D. M., 14, 69 Holbrook, K. A., 12, 163 Holland, H. L., 10, 435; 11, 37 Holm, R. H., 10, 455 Hooper, M., 16, 437 Hore, P. J., 8, 29 Horton, E. W., 4, 589 Hough, L., 14, 357 Hounsell, E. F., 16, 161 Hudson, M. F., 4, 363 Huffman, J. C., 14, 69 Huntress, W. T., jun., 6, Hutchins, G. J., 18, 251 Hutchinson, D. W., 6, 43 Ibers, J. A., 11, 57 Ikan, R., 6, 431 Isaacs, N. S., 5, 181 Isbell, H. S., 3, 1 Jaffé, H. H., 5, 165 James, A. M., 8, 389 Jameson, R. F., 18, 477 Jamieson, A. M., 2, 325 Janes, N. F., 7, 473 Jencks, W. P., 10, 345 Jenkins, J. A., 6, 139 Johnson, A. W., 4, 1; 9, Johnson, S. P., 5, 441 Johnstone, A. H., 7, 317; 9, 365 Jones, J. R., 10, 329 Jones, P. G., 13, 157 Joslin, C. G., 8, 29 Jotham, R. W., 2, 457 Julia, M. Y., 20, 129 Kalyanasundaram, K., 7, 453

Katritzky, A. R., 13, 47: 19,83 Keeler, J., 19, 381 Keenan, A. G., 8, 259 Kemball, C., 13, 375 Kemp, T. J., 3, 139; 8, 353 Kennedy, J. F., 2, 355; 8, 221 Kennewell, P. D., 4, 189; 9, 477 Kenny, A. W., 4, 90 Kerridge, D. H., 17, King, G. A. M., 7, 297 Kirby, G. W., 6, 1 Kitaigorodsky, A. I., 7, 133 Klair, S. S., 19, 147 Koch, K. R., 6, 393 Kochetkov, 19, 29 Kolar, G. F., 9, 241 Korpela, T., 12, 309 Kresge, A. J., 2, 475 Krishnaji, 7, 219 Kroto, H. W., 11, 435 Krüger, H., 11, 227 Kuhn, A. T., 10, 49 Lappert, M. F., 2, 99 Lee, I., 19, 133, 317 Lee, M. L., 10, 113 Lee-Ruff, E., 6, 195 Legon, A. C., 16, 467; 19, 197 Leigh, G. J., 1, 121; 4, 155 Lemieux, R. U., 7, 423; 18, 347 Leznoff, C. C., 3, 65 Lilley, D. M. J., 18, 53 Lindberg, B., 10, 409 Lindley, J., 16, 275 Lindsay, D. G., 10, 233 Lindoy, L. F., 4, 421 Linert, W., 18, 477 Linford, R. G., 1, 445 Lipscomb, W. N., 1, 319 Liu, M. T. H., 11, 127 Lloyd, D., 16, 45 Lorimer, J. P., 16, 239 Lynch, J. M., 3, 309 Lythgoe, B., 9, 449 Mäkelä, M. J., 12, 309 McCleverty, J. A., 12, 331

McKean, D. C., 7, 399 McKellar, J. F., 4, 533 McKervey, M. A., 3, 479 Mackie, R. K., 3, 87 McLauchlan, K. A., 8, 29 McNab, H., 7, 345 Maier, J. P., 17, 45 Maitland, G. C., 2, 181 Maitlis, P. M., 10, 1 Mann, B. E., 15, 167 Mann, J., 16, 381 Manning, P. G., 5, 233 Maret, A. R., 2, 325 Markov, P., 13, 69 Marzilli, L. E., 18, 225 Maskill, H., 18, 123 Maslowsky, E., 9, 25 Massoud, A., 20, 503 Mason, R., 1, 431 Mason, S. F., 17, 347 Mason, T. J., 16, 239, 275 Mayo, B. C., 2, 49 Meadowcroft, A. E., 4, 99 Menger, H. W., 2, 415 Meyer, A. Y., 15, 449 Midgley, D., 4, 549 Millen, D. J., 5, 253; 16, 467 Mills, A., 18, 285 Mills, R., 5, 215 Mingos, D. M. P., 15, 31; 20, 1 Mitchell, J. C., 14, 399 Moore, D. S., 12, 415 Moore, H. W., 2, 415; 10, 289 Morgan, E. D., 13, 245 Morley, R., 5, 269 Morris, D. G., 11, 397 Morris, J. H., **6**, 173 Morris, J. L., **15**, 1 Müller, J., **16**, 75 Muetterties, E. L., 11, 283 Mulheirn, L. F., 1, 259 Mulvey, R. E., 20, 167 Munn, A., 4, 87 Murphy, P. J., 17, 1 Murphy, W. S., 12, 213 Musumarra, G., 13, 47 Newman, J. F., 4, 77 Nightingale, W. H., 7,

Norman, N. C., 17, 269 Norman, R. O. C., 8, 1 North, A. M., 1, 49 Noyori, R., 18, 187 Oakenfull, D. G., 6, 25 O'Donnell, T. A., 16, 1 Ormiston, R. A., 16, 45 Overton, K. H., 8, 447 Pacreau, A., 20, 503 Page, M. I., 2, 295 Paleos, C. M., 14, 45 Papaconstantinou, E., 18, 1 Parker, D., 19, 271 Parlier, A., 20, 503 Paton, R. M., 18, 33 Pattenden, G., 17, 361 Paulsen, H., 13, 15 Pelter, A., 11, 191 Perera, S. D., 20, 391 Perkins, P. G., 6, 173 Perutz, R. N., 17, 453 Pickford, C. J., 10, 245 Pindur, U., 16, 75 Pletcher, D., 4, 471 Poliakoff, M., 3, 293; 7, 527 Pradeep, T., 20, 477 Prakash, V., 7, 219 Pratt, A. C., 6, 63 Pratt, J. M., 14, 161 Puddephatt, R. J., 12, 99 Ramm, P. J., 1, 259 Ramsay, J. D. F., 15, 335 Randaccio, L., 18, 225 Rao, C. N. R., 5, 297; 12, 361; 20, 477 Ratledge, C., 8, 283 Rattee, I. D., 1, 145 Redl, G., 3, 273 Redpath, J., 12, 75 Rehorek, D., 20, 341 Reid, G., 19, 239 Rees, C. W., 15, 1 Richards, D. H., 6, 235 Ridd, J. H., 20, 149 Ritch, J. B., jun., 5, 452 Roberts, M. W., 6, 373; 18, 451 Robins, D. J., 18, 375 Robinson, F. A., 5, 317 Robinson, J. A., 17, 383

Robinson, J. N., 20, 49 Robinson, S. D., 12, 415 Roche, M., 5, 165 Rodgers, M. A. J., 7, 235 Roesky, H. W., 15, 309 Rose, A. E. A., 6, 173 Rosenthal, S., 19, 147 Rouvray, D. H., 3, 355 Rowlinson, J. S., 7, 329; 12, 251 Ruasse, M.-F., 18, 123 Rudler, H., 20, 503 Rudler, M., 20, 503 Russell, C. A., 20, 425 Russell, D. K., 19, 407 Sanders, J. K. M., 6, 467 Sarma, T. S., 2, 203 Satchell, D. P. N., 4, 231; 6, 345; 19, 55 Satchell, R. S., 4, 231; 19, 55 Scheinmann, F., 11, 321 Schlegel, W., 7, 177 Schöder, M., 19, 239 Scriven, E. F. V., 12, 129 Scurrell, M. S., 18, 251 Self, R., 10, 255 Senthilnathan, V. P., 5, 297 Sermon, P. A., 16, 339 Sherman, L. R., 14, 225 Sherwood, P. M. A., 14, Shorter, J., 7, 1 Simonetta, M., 13, 1 Simpkins, N. S., 19, 335 Simpson, T. J., 4, 497; 16, 123 Singh, S., **5**, 297 Slorach, S. A., **10**, 280 Smith, E. B., 2, 181, 15, 503 Smith, I. W. M., 14, 141 Smith, J. A. S., 15, 225 Smith, K., 3, 443 Smith, K. M., 4, 363 Smith, W. E., 6, 173; 9, 217 Snell, K. D., 8, 259 Somorjai, G. A., 13, 321 Spiro, M., 15, 141 Stacey, M., 2, 145

195

Staunton, J., 8, 539 Staveley, L. A. K., 13, 173 Stevens, M. F. G., 7, 377 Stoddart, J. F., 8, 85 Stokes, R. H., 11, 257 Strachan, A. N., 11, 41 Suckling, C. J., 3, 387; 13, 97 Suckling, K. E., 3, 387 Sutherland, I. O., 15, 63 Sutherland, J. K., 9, 265 Sutherland, R. G., 1, 241 Sutton, D., 4, 443 Sutton, K. H., 17, 147 Swan, J. S., 7, 201 Swindells, R., 7, 212 Sykes, A. G., 14, 283 Symons, M. C. R., 5, 337; 12, 1, 387; 13, 393 Takken, H. J., 7, 167 Taylor, J. B., 4, 189; 9, Taylor, S. E., 10, 329 Thea, S., 15, 125 Theobald, D. W., 5, 203 Thibblin, A., 18, 209 Thomas, T. W., 1, 99 Thompson, M., 1, 355 Thornber, C. W., 8, 563 Tincknell, R. C., 5, 463 Toennies, J. P., 3, 407 Tolman, C. A., 1, 337 Tonge, P. J., 19, 293 Trost, B. M., 11, 141 Truax, D. R., 5, 411 Tuckett, R. P., 19, 439 Twitchett, H. J., 3, 209 Tyman, J. H. P., 8, 499 Underhill, A. E., 1, 99; 9, 429 van Dort, J. M., 7, 167 van der Linde, L. M., 7, 167 Varvoglis, A., 10, 377 Vasapollo, G., 19, 355 Vaughan, K., 7, 377 Vidali, M., 8, 199 Vigato, P. A., 8, 199; 17, 69 Volkov, S. V., 19, 21 Vollhardt, K. P. C., 9, 41 Wain, R. L., 6, 261 Walker, E. R. H., 5, 23 Walker, I. C., 3, 467 Waltz, W. L., 1, 241

Ward, I. M., 3, 231 Ward, R. S., 11, 75; 19, 1 Watkins, D. M., 9, 429 Wattanasin, S., 12, 213 Westwood, N. P. C., 18, 317 White, A. J., 3, 17 Whitfield, R. C., 1, 27 Whittaker, M., 17, 147 Widom, B., 14, 121 Wieser, H., 5, 411 Wiesner, K., 6, 413 Williams, A., 15, 125 Williams, D. H., 13, 131 Williams, D. L. H., 14, 171 Williams, D. R., 15, 291 Williams, G., 7, 89 Williams, G. H., 15, 261 Williams, R. J. P., 9, 281, 325 Wilson, A. D., 7, 265 Wise, S. A., 10, 113 Witzel, H., 16, 75 Woodhouse, J. R., 18, 251 Yefsah, R., 20, 503 Yoffe, A. D., 5, 51 Zangrando, E., 18, 225 Zeelen, F. J., 12, 75

INDEX OF TITLES

and binding properties of, 6, 173 Amines and alcohols, conformational analysis of, Amines and alcohols, conformational analysis of, Aminocarbene complexes of chromium and molybdenum: initiators for cascade reactions with alkynes, 20, 503 Analysis of trace constituents of the diet, organic and inorganic, 10, 245, 255 Analytical methods, modern, for environmental polycyclic aromatic compounds, 10, 113 Angular geometries of hydrogen-bonded dimers: a simple electrostatic interpretation of the success of the electron pair model, 16, 467 Anionic cyclization of phenols, 12, 213 Ants, chemicals from the glands of, 13, 245 Aphids and scale insects, their chemistry, 4, 263 and gases, 7, 297 Avermectins and milbemycins, Parts I Autocatalysis, 20, 503 Arethology, 21, 215 Apart I Autocatalysis, 20, 503 Arethology, 21, 215 April Autocatalysis, 20, 503 Arethology, 21, 215 April Autocatalysis, 20, 503 Avermectins and milbemycins, Parts I Autocatalysis, 20, 503 Avermectins and milbemycins, Parts I Autocatalysis, 20, 503 Avermectins and milbemycins, parts I April Autocatalysis, 20, 503 Avermectins and milbemycins, parts I April Autocatalysis, 20, 503 Avermectins and milbemycins, parts I April Autocatalysis, 20, 501 Av	Abiotic receptors, Absorption bands in the spectra of stars, a crystal field approach, 5, 233 Acetamide and acetamide complexes, the chemistry, 17, 181 Acidity of solid surfaces, Across the living barrier, 6, 325 Activation parameters for chemical reactions in solution, 4-dialkylaminopyridines, 4-dialkylaminopyridines, 4-dialkylaminopyridines, 4-dialkylaminopyridines, 4-dialkylaminopyridines, 4-dialkylaminopyridines, 4-dialkylaminopyridines, 4-dialkylaminopyridines, 4-dialkylaminopyridines, 3-mechanistic comparison, 4, 231 Acylation, Friedel-Crafts, of alkenes 1, 73 Adamantane rearrangements, 3, 379 Affinity chromatography, chemical aspects of, 3, 249 Alcohols and amines, conformational analysis of, 4, 541 Aliphatic nucleophilic substitution reactions, new insights into, from the use of pyridines as leaving groups, 13, 47 Alkali-metal complexes in aqueous solution, 4, 549 Alkaloids, aconite, synthesis of, 4, 413 Alkenes, the Friedel-Crafts acylation of, 1, 73 π-Allylnickel halides as selective reagents in organic synthesis, 14, 93 Aluminium phosphates, the chemistry	Application of electrochemical techniques to the study of homogeneous chemical reactions, 4, 471 Applications of e.s.r. spectroscopy to kinetics and mechanism in organic chemistry, 8, 1 Applications of multinuclear NMR to structural and biosynthetic studies of polyketide microbial metabolites, 16, 123 Application of research findings to the development of commercial flavourings, 7, 177 Aqueous carbonate solutions, potentiometric titrations of, 14, 265 Aqueous mixtures, kinetics of reactions in, 4, 55 Aqueous solution, micelles in, 6, 25 Aqueous solution, of aromatic and polyfluoroaromatic compounds, 15, 261 Arylation, homolytic, of aromatic and polyfluoroaromatic compounds, 15, 261 Aryl cations—new light on old intermediates, 8, 353 — halides, photochemistry and photocyclization of, 10, 181 Aryldiazonium cations, co-ordination chemistry of, 4, 443 Aryliodine(III) dicarboxylates, 10, 377 Atmosphere, interactions in, of droolets
Aluminium phosphates, the chemistry and binding properties of, 6, 173 Amines and alcohols, conformational analysis of, 5, 411 Aminocarbene complexes of chromium and molybdenum: initiators for cascade reactions with alkynes, 20, 503 Analysis of trace constituents of the diet, organic and inorganic, 10, 245, 255 Analytical methods, modern, for environmental polycyclic aromatic compounds, 10, 113 Angular geometries of hydrogenbonded dimers: a simple electrostatic interpretation of the success of the electron pair model, 16, 467 Anionic cyclization of phenols, 12, 213 Ants, chemicals from the glands of, 13, 245 Aphids and scale insects, their chem-	solution, 4, 549 Alkaloids, aconite, synthesis of, 6, 413 Alkenes, the Friedel–Crafts acylation of, 1, 73 π-Allylnickel halides as selective rea-	mediates, 8, 353 — halides, photochemistry and photocyclization of, 10, 181 Aryldiazonium cations, co-ordination chemistry of, 4, 443
cade reactions with alkynes, 20, 503 Analysis of trace constituents of the diet, organic and inorganic, 10, 245, 255 Analytical methods, modern, for environmental polycyclic aromatic compounds, 10, 113 Angular geometries of hydrogenbonded dimers: a simple electrostatic interpretation of the success of the electron pair model, 16, 467 Anionic cyclization of phenols, 12, 213 Ants, chemicals from the glands of, 13, 245 Aphids and scale insects, their chem-	and binding properties of, 6, 173 Amines and alcohols, conformational analysis of, 5, 411 Aminocarbene complexes of chromium	and gases, 1, 411 Autocatalysis, 7, 297 Avermectins and milbemycins, Parts I and II 20, 211, 271
compounds, 10, 113 Angular geometries of hydrogen- bonded dimers: a simple electrostatic interpretation of the success of the electron pair model, 16, 467 Anionic cyclization of phenols, 12, 213 Ants, chemicals from the glands of, 13, 245 Aphids and scale insects, their chem-	cade reactions with alkynes, 20, 503 Analysis of trace constituents of the diet, organic and inorganic, 10, 245, 255 Analytical methods, modern, for en-	chemistry of, 2, 415 Azobenzene and its derivatives, photochemistry of, 1, 481
Ants, chemicals from the glands of, 13, 245 Aphids and scale insects, their chem- Bile pigments, 4, 363 Bile pigments, binding of heavy metals to proteins,	compounds, 10, 113 Angular geometries of hydrogen- bonded dimers: a simple electrostatic interpretation of the success of the	how the protein controls the active site, 14, 161 B ₁₂ Models, structural properties of organocobalt coenzyme, 18, 225
	Anionic cyclization of phenols, 12, 213 Ants, chemicals from the glands of, 13, 245 Aphids and scale insects, their chem-	thesis from acyclic compounds, 13, 441 Bile pigments, 4, 363 Binding of heavy metals to proteins,

2, 355

Binding properties and chemisti	
	, 173
Bio-active molecules, structural st	udies
on, 13	, 131
	pects
	389
Biomimetic chemistry,	, 553
	, 347
Biosynthesis of pyrrolizidine alka	
18	3, 375
Biosynthesis of sterols,	, 259
Biosynthetic products from arachie	donic
acid. 6	, 489
-, studies, carbon-13 nuclear	mag-
netic resonance in,	. 497
- of polyketide microbial i	
bolites, applications of multinu	
	6, 123
Bis(diphenylphosphino)methane,	
chemistry of,	2, 99
Blood groups, human, and carb	ohy-
drate chemistry,	7, 423
Bonding in molecular clusters and	their
relationship to bulk metals, 1	
Bond strengths, CH, in simple or	
compounds: effects of conform	ation
	7, 399
— valences—a simple struc	
model for inorganic chemistry,	7 250
Boron reagents, carbon-carbon	
	1, 191
Bredt's rule,	3, 41
	elop-
	2, 475
Brownian dynamics with hyd	
namic interactions: the applicati	on to
protein diffusional problems, 14	421
Butadiene, polymerization and co	poly-
	5, 235
	,
Calciferols, hormonal: chemistr	v of
'Vitamin' D,	6, 83
Calorimetric investigations of hydr	
hand and charge tre	nefer
bond and charge-tra	102
	3, 193
Cancer and chemicals,	4, 289
Carbohydrate chemistry and h	uman
	7, 423
Carbohydrate differentiation ant	igens,
structural and conformational	
	5, 161
	acro-
	oxide
	8, 221
Carbohydrate-protein comp	levec

Carbohydrates to enzyme analogues, 8, 85 Carbon-carbon bond formation involving boron reagents, 11, 191 Carbon-13 nuclear magnetic resonance in biosynthetic studies, 4, 497 Carbonium ions, carbanions, and radicals, chirality in, 2, 397 Carbonyl clusters, metal, relationship with supported metal catalysts, 10, 159 - compounds, photochemistry of, 1,465 equivalents, silicon-containing 11, 493 11, 397 group transpositions, Carcinogens, chemical, mechanisms of reaction with nucleic acid, 9, 241 Catalysis and coordination compounds involving electron-rich main group elements, 15, 309 Catalysis and surface chemistry, new perspectives, 6.373 Catalysis, homogeneous, and organometallic chemistry, the 16 and 18 electron rule in. 1,337 of the olefin metathesis reaction, 4, 155 Catalysts for oxygen and chlorine evolution, heterogeneous redox, 18, 225 Catalysts, supported metal, relationship with metal carbonyl clusters, 10, 159 Catalysts, supported metal: some unsolved problems, 20, 441 Cationic species in protonic superacids and acidic melts, stabilization of unusual. 16, 1 CENTENARY LECTURE. **Biomimetic** chemistry, 1,553 CENTENARY LECTURE. Catalysis and coordination compounds involving electron-rich main group elements, 15, 309

CENTENARY LECTURE. Chemical multiplication of chirality: science and

CENTENARY LECTURE. Chemical studies on some early steps in the bio-

CENTENARY LECTURE. Cyclopentanoids: a challenge for new methodology

applications

synthesis of squalene,

glycoproteins, and proteoglycans, of human tissues, chemical aspects of,

18, 187

20, 129

11, 141

CENTENARY LECTURE. Hydrocarbon reactions at metal centres, 11, 283	and chemistry teacher educa- tion worldwide, new trends in,
CENTENARY LECTURE. Light scattering in pure liquids and solutions, 6, 109	17, 135 — research: facts, findings, and
CENTENARY LECTURE. Long-range	consequences, 9, 365
electron-transfer in blue copper pro- teins, 15, 17	— interpretations of molecular wavefunctions, 5, 79
CENTENARY LECTURE. Metal clusters in biology, 10, 455	— models of enzymic transimination, 12, 309
CENTENARY LECTURE. Molecular in- gredients of heterogeneous	processes on heterogeneous catalysis, 13, 375
catalysis, 13, 321 CENTENARY LECTURE. Organic reaction	reactions in molten salts and their reactions. 19, 21
paths: a theoretical approach, 13, 1	Chemically-induced dynamic electron
CENTENARY LECTURE. Phase equili- brium and interfacial structure,	polarization (CIDEP), role in chemistry, 8, 29
14, 121	Chemicals from the glands of ants,
CENTENARY LECTURE. Quadruple	13, 245
bonds and other multiple metal to metal bonds.	— in rodent control, 1, 381 — which control plant growth, 6, 261
CENTENARY LECTURE. Reactivities of	Chemisorption and reaction pathways
carbon disulphide, carbon dioxide,	at metal surfaces: the role of surface
and carbonyl sulphide towards some	oxygen, 18, 451
transition-metal systems, 11, 57 CENTENARY LECTURE. Rotationally and	Chemistry and binding properties of aluminium phosphates, 6, 173
vibrationally inelastic scattering of	CHEMISTRY AND FLAVOUR
molecules, 3, 407	I Molecular Structure and Or-
CENTENARY LECTURE. Systematic devel-	ganoleptic Quality, 7, 167
opment of strategy in the synthesis of polycyclic polysubstituted natural	II Application of Research Findings to the Development of Com-
products: the aconite alkaloids, 6 , 413	mercial Flavourings, 7, 177
CENTENARY LECTURE. Three-dimen-	III Safety Evaluation of Natural and
sional structures and chemical mechanisms of enzymes, 1, 319	Synthetic Flavourings, 7, 185 IV The Influence of Legislation on Re-
Charge transfer and hydrogen bond	search in Flavour Chemistry, 7, 195
complexes, calorimetric investiga-	V The Development of Flavour in
tions of, 3, 193	Potable Spirits, 7, 201
Charge-transfer complexes, theoretical models of. 15, 475	VI The Influence of Flavour Chemistry on Consumer Acceptance,
Charge-transfer salts, recent progress	7, 212
on conducting organic, 20, 355	Chemistry and the new industrial re-
Chemical applications of advances in	volution, 5, 317
Fourier transform spectroscopy, 4, 569	—, a topological subject, 2, 457 — of aphids and scale insects, 4, 263
- aspects of affinity chromato-	— of azidoquinones and related com-
graphy 2, 249	pounds, 2, 415
- of glycoproteins, proteogly-	— of dental cements, 7, 265
cans, and carbohydrate-protein complexes of human tissues, 2, 355	— of dyeing, 1, 145 — of the gold drugs used in the
Chemical bonds 1841—1991: 150 years	treatment of rheumatoid arthritis,
of the British chemical commu-	9, 217
nity, 20, 425	— of homonuclear sulphur species,
Chemical education, conceptions, misconceptions, and alternative	2, 233
frameworks in, 13, 199	of long-chain phenols of non- isoprenoid origin, 8, 499
101 177	

of molten acetamide and acetamide complexes. of the production of organic isocvanates. 3, 209 of peroxonium ions and dioxygen 14, 399 ylides. of transition-metal carbene complexes and their role as reaction intermediates, of 'Vitamin' D: the hormonal calciferols, 6,83 , some considerations on the philo-5, 203 sophy of, Chirality, chemical multiplications of, 18, 187 science and applications, Chirality in carbonium ions, car-2, 397 banions, and radicals, Chirality, symmetry, and molecular, 15, 189 Chlorophyll chemistry, n.m.r. spectral change as a probe. 6, 467 Chromatography, affinity, chemical aspects of, 2, 249 cis- and trans-Effects of ligands, 2, 163 Clathrates and molecular inclusion 7,65 phenomena. Cobalt-mediated radical reactions in 17, 361 organic synthesis, Collisional transfer of rotational energy 7, 219 and spectral lineshapes, Compartmental ligands: routes to homo- and hetero-dinuclear complexes. 8, 199 Complex formation between sugars and metal cations, 9, 415 hydride reducing agents, functional group selectivity of, 5, 23 Complexes, alkali-metal, in aqueous solution. homo- and hetero-dinuclear, routes 8, 199 via compartmental ligands, -, 1-D metallic, 9, 429 Complexes, square-planar, isomerization mechanisms of. 9, 185 Computer resolution of overlapping 9, 143 electronic absorption bands, Conductivity and superconductivity in 5,95 polymers, Conformation and substitution, effects of, on individual CH bond strengths in simple organic compounds, 7, 399 of rings and neighbouring group effects, development of Haworth's 3, 1 concepts of, Conformational analysis of some al-

cohols and amines: a comparison of molecular orbital theory, rotational and vibrational spectroscopy, 5, 411 of transition metal n1-acvl complexes: steric interactions and stereoelectronic effects, studies on small molecules, 1, 293 Contribution of ion-pairing to 'memory effects'. 4, 251 Contributions of pulse radiolysis to 7, 235 chemistry, Conversion of ammonium cyanate into urea-a saga in reaction mechanisms. Co-ordination chemistry of aryldiazonium cations: aryldiazenato (arylazo) complexes of transition metals, and the aryldiazenatonitrosyl analogy, Co-ordination chemistry of C-nitroso-19, 355 compounds. Corrin synthesis, post-B₁₂ problems Crystal field approach to absorption bands in the spectra of stars, Crystal structure determination: a critical view, 13, 157 Crystals and molecules, organic, nonbonded interactions of atoms in, 7, 133 Current aspects of unimolecular reactions. 12, 163 Cyanocobalt(III) complexes, the synthesis of mononuclear. 12, 267 Cyanoketenes: synthesis and cycloadditions. 10, 289 Cyclization, initiation of, using 3methylcyclohex-2-enone derivatives. 9, 265 of phenols, anionic, 12, 213 Cyclopentanoids: a challenge for new methodology, 11, 141 Cyclopolymerization, 1,523 Dakin-West reaction, 17,91 7, 265 Dental cements, chemistry of, Designing drugs to fit a macro-13, 279 molecular receptor, Development of flavour in potable 7, 201 spirits, 4-Dialkylaminopyridines: super acylation and alkylation catalysts, 12, 129

Diazirines, the thermolysis and photoly-

sis of.

11, 127

β-Dicarbonyl compounds, light-	Electrons, solvated, in solutions of
induced tautomerism of, 13, 69	metals, 5, 337
Dielectric relaxation in polymer solu-	Electron spin resonance of haemo-
tions, 1, 49	globin and myoglobin, 12, 387
Diels-Alder reaction, stereochemical as-	Electron-transfer, long range, in blue
pects of the intramolecular, 16, 187	copper proteins, 15, 17
Diffusion in liquids, the effect of iso-	Electrophilic aromatic substitutions,
topic substitution on, 5, 215	non-conventional, and related reac-
Diffusional problems, Brownian dy-	tions, 3, 167
namics with hydrodynamic interac-	— C-nitroso-compounds, 6, 1
tions: the application to protein, 14,	Electrophoresis, historical develop- ment of sodium dodecyl sulphate-
Difluoroamino-radical, gas-phase	polyacrylamide gel, 14, 225
kinetics of, gas-phase	Elimination reactions, isotope effect
Droplets and gases, interactions in the	studies of. 1, 163
atmosphere of, 1, 411	Enaminones, 6, 277
Drug design, isosterism and molecular	Energetics of neighbouring group par-
modification in 8 563	ticipation, 2, 295
Dyeing, chemistry of, 3, 273	Enumeration methods for isomers,
Dyeing, chemistry of, 1, 145	3, 355
Dynamic decay properties of excited	Environmental chemical influences on
electronic states of polyatomic mole-	behaviour and mentation, 15, 93
cular ions studied with synchrotron	—— lead in perspective, 8, 63
radiation, 19, 439	— polycyclic aromatic compounds,
m 11 1 4 4	modern analytical methods for,
Echinoderms, 1, 1	10, 113
Education, chemical, a reassessment of	— protection in the distribution of
research in, 1, 27	hazardous chemicals, 4, 99 — regulation: an international
development in the U.K., 1972—	view, 5, 431
1976, 7, 317	Enzyme analogues from carbohy-
Effect of isotopic substitution on dif-	drates, 8, 85
fusion in liquids, 5, 215	Enzymes, immobilized. 6, 215
Electrochemical techniques, applica-	in organic synthesis 3 387
tion of to study of homogeneous	the logic of working with, 2, 1 of secondary metabolism in
chemical reactions, 4, 471	- of secondary metabolism in
Electrode and related structures,	microorganisms, 17, 383
photoelectron spectroscopic struc-	, three-dimensional structures
tures of, 14, 1	and chemical mechanisms of,
Electron as a chemical entity, 4, 323	1, 319
— pair model, angular geometries of	Enzyme-catalysed reactions, reactive
hydrogen-bonded dimers: a simple	intermediates in, 13, 97
electrostatic interpretation of the suc-	Enzymic reactions, stereochemical
cess of the, 16, 467 — scattering spectroscopy, thresh-	choice in 8, 447 E.s.r. spectroscopy, applications to
old 2 467	kinetics and mechanism in organic
spectroscopy, 1, 355 transfer across vesicle bilay-	chemistry, 8, 1
- transfer across vesicle hilay-	Experimental studies on the structure
ers. 20, 49	of aqueous solutions of hydrophobic
Electronic absorption bands, overlap-	solutes. 2. 203
ping, computer resolution of, 9, 143	-,
Electronic properties of some chain	FARADAY LECTURE. The electron as a
and layer compounds, 5, 51	chemical entity, 4, 323
— transitions, vibrational intensities	FARADAY LECTURE. The molecular
in, 5, 165	theory of small systems, 12, 251

	THE
Fast reactions, techniques for the kinetic study of, 11, 227	Guanidine derivatives acting at histaminergic receptors 14, 375
Fats grown from wastes, 8, 283	
Fe(CO) ₄ , 7, 527	Haemoglobin and myoglobin, electron
5-Substituted pyrimidine nucleosides	spin resonance of, 12, 387
and nucleotides, 6, 43 Fixation, of nitrogen, 1, 121	Halogens and interhalogens, fluorescence decay dynamics of, 15, 405
Flavins (isoalloxazines), the photo-	Handling toxic chemicals—environ-
physical and photochemical proper-	mental considerations, 4, 77
ties of, 11, 15	Hard-sphere theories of transport pro-
Fluorine, modern methods for introduc-	perties, 14, 317
tion into organic molecules: an	HAWORTH MEMORIAL LECTURE. The
approach to compounds with altered	consequences of some projects initia-
chemical and biological activities, 16, 381	ted by Sir Norman Haworth, 2, 145
Fluorescence decay dynamics of the	HAWORTH MEMORIAL LECTURE. The
halogens and interhalogens, 15, 405	Haworth-Hudson controversy and
Fluxionality of polyene and polyenyl	the development of Haworth's
metal complexes, 15, 167	concepts of ring conformation and
Forces between simple molecules,	of neighbouring group effects,
2, 181	Hanson Meyonas Lecture The
Foreign compounds in mammals, importance of non-enzymic chemical	HAWORTH MEMORIAL LECTURE. The sweeter side of chemistry, 14, 357
reaction processes to the rate of,	HAWORTH MEMORIAL LECTURE.
9, 63	Human blood groups and carbohy-
Formation of hydrocarbons by micro-	drate chemistry, 7, 423
organisms, 3, 309	HAWORTH MEMORIAL LECTURE. Micro-
Fourier transform spectroscopy,	bial polysaccharides: new ap-
chemical applications of advances in, 4, 569	proaches, 19, 29 HAWORTH MEMORIAL LECTURE. Struc-
Four-membered rings and reaction	tural studies of polysaccharides,
mechanisms, 5, 149	10, 409
Friedel-Crafts acylation of alkenes,	HAWORTH MEMORIAL LECTURE. Syn-
1,73	thesis of complex oligosaccharide
Functional group selectivity of complex hydride reducing agents, 5, 23	chains of glycoproteins, 13, 15
plex hydride reducing agents, 5, 23	Hazards in the chemical industry— risk management and insurance,
Gas-phase kinetics of the difluoro-	8, 419
amino-radical, 3, 17	Health hazards to workers from in-
Gases, and droplets, interactions in the	dustrial chemicals, 4, 82
atmosphere of, 1, 411	Heterocyclic compounds, prototropic
Glass transition: salient facts and theo-	routes to 1,3- and 1,5-dipoles, and
retical models, 12, 361 Glycoproteins, proteoglycans, and	ylides for the synthesis of, 16, 89 Heterogeneous catalysis, chemical pro-
carbohydrate-protein complexes of	cesses on, 13, 375
human tissues, chemical aspects	Heterosubstituted nitroalkenes in syn-
of, 2, 355	thesis, 20, 95
Glycoproteins, synthesis of complex	High resolution laser spectroscopy,
oligosaccharide chains of, 13, 15	12, 453
Gold drugs used in the treatment of rheumatoid arthritis, chemistry	Histaminergic receptors, guanidine derivatives acting at, 14, 375
of, 9, 217	Historical development of sodium
Growth of computational quantum	dodecyl sulphate-polyacrylamide gel
chemistry from 1950 to 1971,	electrophoresis, 14, 225
2, 21	Homogeneous catalysis, and or-

ganometallic chemistry, the 16 and INGOLD LECTURE. How does a reaction 1.337 choose its mechanism? 10, 345 18 electron rule in. chemical reactions. Initiation of cyclization using Homogeneous application of electrochemical technimethyl-cyclohex-2-enone derivatives, 9, 265 ques to the study of. 4, 471 Homogenous pyrolysis, infra-red laser Inorganic chemistry, bond valences, a 7, 359 19, 407 simple structural model for, powered. Inorganic Homolytic arylation of aromatic and pyro-compounds $M_a \lceil (X_2 O_7)_b \rceil$, 5, 269 polyfluoroaromatic compounds, 15, 261 myo-Inositol phosphates, recent de-Human blood groups and carbovelopments in the synthesis of, 7,423 18, 83 hydrate chemistry. Insect attractants of natural origin. Hydrocarbon formation by micro-2, 75 organisms, 3, 309 reactions at metal centres, 11, 283 Insecticides, a new group of: synthetic Hydrogen bond and charge-transfer pyrethroids. Interactions in the atmosphere of complexes, calorimetric investiga-1,411 tions of. 3, 193 droplets and gases. bonded liquids, thermodynamics ion-solvent, thermodynamics of. 11, 257 of. 9, 381 9,91 , metal-metal, in transition-metal bonding, very strong, complexes containing infinite chains isotope effects, kinetic, recent 3, 513 of metal atoms, advances in the study of, Hydrophobic solutes, experimental non-bonded, of atoms in organic studies on the structure of aqueous crystals and molecules, 7, 133 Introducing a new agricultural chemsolutions of, Imines, photochemistry of, 6, 63 Ion-molecule reactions in the evolu-Immobilized enzymes, 6, 215 tion of simple organic molecules in Importance of (non-enzymic) chemical interstellar clouds and planetary reaction processes to the fate of 6, 295 atmospheres. Ion-pairing, contribution to 'memory foreign compounds in mammals, effects', 4, 251 Importance of solvent internal pressure Ion-solvent interactions, thermo-9, 381 and cohesion to solution phenomdynamics of, 4, 211 Ion transfer across model biological ena. Inclusion phenomena, molecular, and membranes, voltammetric studies of, 17, 319 clathrates. 7,65 Individual CH bond strengths in Isocyanates and ketens, a mechanistic comparison of acylation by, 4, 231 simple organic compounds: effects of conformation and substitution, , organic, chemistry of the produc-7, 399 3, 209 tion of. Industry, chemical, hazards in: risk Isocyanic acid, preparation and propermanagement and insurance, 8, 419 ties of. 11, 41 Influence of flavour chemistry on con-Isokinetic relationship, 7,212 Isomer enumeration methods, 3, 355 sumer acceptance, Influence of legislation on research in Isomerization mechanisms of square-9, 185 flavour chemistry. 7, 195 planar complexes, Infrared and Raman vibrational spec-Isosterism and molecular modification troscopy in inorganic chemistry 8, 563 in drug design, 4, 107 Isotope effect studies of elimination 1, 163 Infrared laser powered homogenous reactions. pyrolysis. 19, 407 Isotopic hydrogen exchange INGOLD LECTURE. Four-membered rings purines: mechanisms and applicaand reaction mechanisms, tions, 10, 329

— substitution effects on diffusion in liquids, 5, 215 JOHN JEYES LECTURE. Chemicals which control plant growth, 6, 261 JOHN JEYES LECTURE. Environmental chemical influences on behaviour and mentation, 15, 93 JOHN JEYES LECTURE. The environmental chemistry of radioactive waste disposal, 15, 291 KELVIN LECTURE. Across the living barrier, 6, 325 Ketens and isocyanates, a mechanistic comparison of acylation by, 4, 231 Kinetics and mechanism in organic chemistry, applications of e.s.r. spectroscopy to, 8, 1— —, gas-phase, of the difluoroaminoradical, 3, 17 — of reactions in aqueous mixtures, 4, 25 β-Lactams, synthetic routes to, 5, 181 Lanthanides and actinides, macrocyclic Schiff base complexes of, 17, 69 Laser light scattering, quasielastic, 2, 325 Laser spectroscopy of ultra-trace quantities, 8, 367 Lasers, tunable, 3, 293 Lead, environmental, in perspective, on molecularly simple liquid mixtures, recent experimental and theoretical work on molecularly simple liquid mixtures, recent experimental and theoretical work on molecularly simple, 13, 173 Ligand substitution reactions of systems of, 13, 173 Leukotrienes; a new class of biologically active compounds including SRS-A, the synthesis of, 11, 321 Ligand substitution reactions of square-planar molecules, 14, 197 Ligands, urface of a, 7, 329 Liversidoge Lecture. On first looking into nature's chemistry: I The role of small molecules and ions: the transport of elements, 9, 281 III The role of large molecules, 2, 281 III The role of large molecules, and theoretical work on molecular shading the transport of elements, 9, 281 III The role of large molecules, 2, 281 III The role of large hemistry: I The role of small molecules and ions: the transport of elements, 9, 281 III The role of large hemistry: I The role of small molecules and ions: the transport of elements, 19, 281 III The role of small molecules, 2, 281 III The role of small molecules, 19, 281 III The role of small molecules and ions: the transport of elements, 19, 281 III The		inaex
John Jeyes Lecture. Chemicals which control plant growth, 6, 261 John Jeyes Lecture. Environmental chemical influences on behaviour and mentation, 15, 93 John Jeyes Lecture. The environmental chemistry of radioactive waste disposal, 15, 291 Kelvin Lecture. Across the living barrier, 6, 325 Ketens and isocyanates, a mechanistic comparison of acylation by, 4, 231 Kinetics and mechanism in organic chemistry, applications of e.s.r. spectroscopy to, 8, 1 — gas-phase, of the difluoroaminoradical, 3, 17 — of reactions in aqueous mixtures, 4, 55 Lanthanide shift reagents in nuclear magnetic resonance spectroscopy, 2, 49 Lanthanides and actinides, macrocyclic Schiff base complexes of, 17, 69 Laser light scattering, quasielastic, 2, 325 Laser spectroscopy of ultra-trace quantities, 8, 367 Lasers, tunable, 3, 293 Lead, environmental, in perspective experimental and theoretical work on molecularly simple liquid mixtures, 13, 173 Leukotrienes; a new class of biologically active compounds including SRS-A, the synthesis of, 11, 321 Ligand substitution reactions of square-planar molecules, 14, 197 Ligands, cis- and trans-effects of, 2, 163 —, compartmental: routes to homoand hetero-dinuclear complexes, 8, 199 Light-induced tautomerism of β-dicarbonyl compounds, 13, 69 Lignans and neolignans, the synthesis oclisions and the semiclassical apcollisions and the semiclassical ap		and theoretical work on molecularly
JOHN JEYES LECTURE. The environmental chemistry of radioactive waste disposal, 15, 291 KELVIN LECTURE. Across the living barrier, 6, 325 Ketens and isocyanates, a mechanistic comparison of acylation by, 4, 231 Kinetics and mechanism in organic chemistry, applications of e.s.r. spectroscopy to, 8, 1—, gas-phase, of the difluoroaminoradical, 3, 17— of reactions in aqueous mixtures, 4, 55 β-Lactams, synthetic routes to, 5, 181 Lanthanide shift reagents in nuclear magnetic resonance spectroscopy, 2, 49 Lanthanides and actinides, macrocyclic Schiff base complexes of, 17, 69 Laser light scattering, quasielastic, 2, 325 Laser spectroscopy of ultra-trace quantities, 8, 367 Lasers, tunable, 2, 325 Laser spectroscopy of ultra-trace quantities, 8, 367 Lasers, tunable, 3, 293 Lead, environmental, in perspective, 8, 63 Lennard-Jones Lecture. Recent advances in the study of kinetic hydrogen isotope effects, 3, 513 LIVERSIDGE LECTURE. The surface of a liquid, 7, 329 Macromolecular complexes of aliquid, 7, 329 Macromolecular receptor, designing drugs to fit a, 13, 279 Main-group elements, ring, cage, and cluster compounds of, 8, 315 Matrix isolation technique and its application to organic chemistry, 99, 1 Measurement of effective charge in an organic reaction in solution, 15, 125 Mechanisms, chemical, and three-dimensional structures of enzymes, 13, 173 Leukotrienes; a new class of biologically active compounds including incompounds, 11, 321 Ligand substitution reactions of square-planar molecules, 14, 197 Ligands, cis-and trans-effects of 2, 163 —, compartmental: routes to homoand hetero-dinuclear complexes, 8, 199 Light-induced tautomerism of β-dicarbonyl compounds, 13, 69 Lignans and neolignans, the synthesis	control plant growth, 6, 261 JOHN JEYES LECTURE. Environmental chemical influences on behaviour	Liquid, surface of a, 7, 329 LIVERSIDGE LECTURE. On first looking into nature's chemistry: I The role of small molecules and
Ketens and isocyanates, a mechanistic comparison of acylation by, 4, 231 Kinetics and mechanism in organic chemistry, applications of e.s.r. spectroscopy to, 8, 1 —, gas-phase, of the difluoroaminoradical, 3, 17 — of reactions in aqueous mixtures, 4, 55 Lanthanide shift reagents in nuclear magnetic resonance spectroscopy, 2, 49 Lanthanides and actinides, macrocyclic Schiff base complexes of, 17, 69 Laser light scattering, quasielastic, 2, 325 Laser spectroscopy of ultra-trace quantities, 8, 367 Lasers, tunable, 3, 293 Lead, environmental, in perspective, 8, 63 LENNARD-JONES LECTURE. Recent experimental and theoretical work on molecularly simple liquid mixtures, 13, 173 Leukotrienes; a new class of biologically active compounds including SRS-A, the synthesis of, 11, 321 Ligand substitution reactions of square-planar molecules, 14, 197 Ligands, cis- and trans-effects of, 2, 163 —, compartmental: routes to homoand hetero-dinuclear complexes, 8, 199 Light-induced tautomerism of β-dicarbonyl compounds, 13, 69 Lignans and neolignans, the synthesis collisions and the semiclassical ap- iin the study of kinetic hydrogen isotope effects, 3, 513 LiversIDGE LECTURE. The surface of a liquid, 7, 329 Macrocyclic ligands, synthetic, transition-metal complexes of lannthanides and actinides, 17, 69 Macromolecular receptor, designing drugs to fit a, 13, 279 Main-group elements, ring, cage, and cluster compounds of, 8, 315 Matrix isolation technique and its application to organic chemistry, 9, 1 Measurement of effective charge in an organic reaction in solution, 15, 69 Macromyclic ligands, synthetic, transition-metal complexes of lunantition metal complexes of a liquid, 7, 329 Macromyclic ligands, synthetic, transition-metal complexes of a liquid, 7, 329 Macromyclic ligands, synthetic, transition-metal complexes of a liquid, 7, 329 Macromyclic ligands, synthetic, transition-metal complexes of lunantition-metal complexes of lunantition-metal complexes of a liquid, 7, 329 Macromyclic ligands, synthetic, transition-met	JOHN JEYES LECTURE. The environ- mental chemistry of radioactive	II The role of large molecules, especially proteins, 9, 325
Ketens and isocyanates, a mechanistic comparison of acylation by, 4, 231 Kinetics and mechanism in organic chemistry, applications of e.s.r. spectroscopy to, 8, 1 —, gas-phase, of the difluoroaminoradical, 3, 17 — of reactions in aqueous mixtures, 4, 55 Lanthanide shift reagents in nuclear magnetic resonance spectroscopy, 2, 49 Lanthanides and actinides, macrocyclic Schiff base complexes of, 17, 69 Laser light scattering, quasielastic, 2, 325 Laser spectroscopy of ultra-trace quantities, 8, 367 Lasers, tunable, 3, 293 Lead, environmental, in perspective, on molecularly simple liquid mixtures, 13, 173 Leukotrienes; a new class of biologically active compounds including SRS-A, the synthesis of, 11, 321 Ligand substitution reactions of square-planar molecules, 14, 197 Ligands, cis- and trans-effects of, 2, 163 —, compartmental: routes to homoand hetero-dinuclear complexes, 8, 199 Light-induced tautomerism of β-dicarbonyl compounds, 13, 69 Lignans and neolignans, the synthesis of clied to reaction in organic reaction in solution, 15, 125 Metantanides and actinides, 17, 69 Macrocyclic ligands, synthetic, transition-metal complexes of, 4, 421 —Schiff base complexes of, 11, 279 Macromolecular receptor, designing drugs to fit a, 13, 279 Matrix isolation to charge in an organic reaction in solution, 15, 125 Mechanisms, chemical, and three-dimensional structures of enzymes, — of hydrolysis of thioacetals, 19, 55 — of the microbial hydroxylation of steroids, 11, 371 — of reactions in aqueous mixtures, 4, 255 Mechanisms, chemical, and three-dimensional structures of enzymes, — of hydrolysis of thioacetals, 19, 55 — of the microbial hydroxylation of steroids, 9, 241 Mechanisms of nucleophilic substitution in aliphatic compounds, 19, 83 Medicinal chemistry of anti-leprosy drugs, 16, 427 Mechanisms of nucleophilic substitution in aliphatic compounds, 16, 427 Mechanisms of nucleophilic substitution in aliphatic compounds, 16, 427 Mechanisms of nucleophilic substitution in aliphatic compounds, 16, 427		in the study of kinetic hydrogen
chemistry, applications of e.s.r. spectroscopy to, 8, 1 —, gas-phase, of the difluoroaminoradical, 3, 17 — of reactions in aqueous mixtures, 4, 55 Lanthanide shift reagents in nuclear magnetic resonance spectroscopy, 2, 49 Lanthanides and actinides, macrocyclic Schiff base complexes of, 17, 69 Laser light scattering, quasielastic, 2, 325 Laser spectroscopy of ultra-trace quantities, 8, 367 Lasers, tunable, 3, 293 Lead, environmental, in perspective, on molecularly simple liquid mixtures, 13, 173 Leukotrienes; a new class of biologically active compounds including SRS-A, the synthesis of, 11, 321 Ligand substitution reactions of square-planar molecules, 14, 197 Ligands, cis- and trans-effects of, 2, 163 —, compartmental: routes to homoand hetero-dinuclear complexes, 8, 199 Light-induced tautomerism of β-dicarbonyl compounds, 13, 69 Lignans and neolignans, the synthesis of Collisions and the semiclassical ap- Macrocyclic ligands, synthetic, transition-metal complexes of lanthanides and actinides, 17, 69 Macromolecular receptor, designing drugs to fit a, 13, 279 Macromolecular receptor, designing drugs to fit a, 13, 279 Macromolecular receptor, designing drugs to fit a, 13, 279 Matrix isolation technique and its application to organic chemistry, 9, 1 Measurement of effective charge in an organic reaction in solution, 15, 125 Mechanisms, chemical, and three-dimensional structures of enzymes, — of hydrolysis of thioacetals, 19, 55 — of the microbial hydroxylation of steroids, 11, 371 — of reaction between ultimate chemical carcinogens and nucleic acid, 9, 241 Mechanisms of nucleophilic substitution in aliphatic compounds, 19, 83 Medicinal chemistry of anti-leprosy drugs, 16, 437 MelDOLA MEDAL LECTURE. Fe(CO) ₄ , 7, 527 MelDOLA MEDAL LECTURE Molecular collisions and the semiclassical ap-	Ketens and isocyanates, a mechanistic comparison of acylation by, 4, 231	LIVERSIDGE LECTURE. The surface of a
4, 55 A, 55 A, 56 Lanthanide shift reagents in nuclear magnetic resonance spectroscopy. 2, 49 Lanthanides and actinides, macrocyclic Schiff base complexes of, 17, 69 Laser light scattering, quasielastic, 2, 325 Laser spectroscopy of ultra-trace quantities, 8, 367 Lasers, tunable, 3, 293 Lead, environmental, in perspective, experimental and theoretical work on molecularly simple liquid mixtures, 13, 173 Leukotrienes; a new class of biologically active compounds including SRS-A, the synthesis of, 11, 321 Ligand substitution reactions of square-planar molecules, 14, 197 Ligands, cis- and trans-effects of, 2, 163 —, compartmental: routes to homoand hetero-dinuclear complexes, 8, 199 Light-induced tautomerism of β-dicarbonyl compounds, 13, 69 Lignans and neolignans, the synthesis of Collisions and the semiclassical ap- Macromolecular receptor, designing drugs to fit a, 13, 279 Main-group elements, ring, cage, and cluster compounds of, 8, 315 Matrix isolation technique and its application to organic chemistry, 9, 1 Measurement of effective charge in an organic reaction in solution, 15, 125 Mechanisms, chemical, and three-dimensional structures of enzymes, — of hydrolysis of thioacetals, 19, 55 — of the microbial hydroxylation of steroids, 11, 371 — of reaction between ultimate chemical carcinogens and nucleic acid, 9, 241 Mechanisms of nucleophilic substitution in aliphatic compounds, 19, 83 Medicinal chemistry of anti-leprosy drugs, 16, 437 MelDOLA MEDAL Lecture. Fe(CO) ₄ , 7, 527 MelDOLA MEDAL Lecture. Molecular receptor, designing drugs to fit a, 20 Main-group elements, ring, cage, and cluster compounds its application to organic chemistry. 9, 1 Measurement of effective charge in an organic reaction in solution, 15, 125 Mechanisms, chemical, and three-dimensional structures of enzymes, — of the microbial hydroxylation of steroids, — of the microbial hydroxylation of steroids, — of the microbial hydroxylation of square-planar complexes, — of the microbial hydroxylation of square-planar	chemistry, applications of e.s.r. spectroscopy to, 8, 1 —, gas-phase, of the difluoroamino-	transition-metal complexes of, 4, 421 Schiff base complexes of lan-
β-Lactams, synthetic routes to, 5, 181 Lanthanide shift reagents in nuclear magnetic resonance spectroscopy, 2, 49 Lanthanides and actinides, macrocyclic Schiff base complexes of, 17, 69 Laser light scattering, quasielastic, 2, 325 Laser spectroscopy of ultra-trace quantities, 8, 367 Lasers, tunable, 3, 293 Lead, environmental, in perspective, 8, 63 LENNARD-JONES LECTURE. Recent experimental and theoretical work on molecularly simple liquid mixtures, 13, 173 Leukotrienes; a new class of biologically active compounds including SRS-A, the synthesis of, 11, 321 Ligands, cis- and trans-effects of, 2, 163 —, compartmental: routes to homoand hetero-dinuclear complexes, 8, 199 Light-induced tautomerism of β-dicarbonyl compounds, 13, 69 Lignans and neolignans, the synthesis of Cluster compounds of, Matrix isolation technique and its application to organic chemistry, 9, 1 Measurement of effective charge in an organic reaction in solution, 15, 125 Mechanisms, chemical, and three-dimensional structures of enzymes, 0f the microbial hydroxylation of steroids, 11, 371 — of reaction between ultimate chemical carcinogens and nucleic acid, 9, 241 Mechanisms of nucleophilic substitution in aliphatic compounds, 19, 83 Medicinal chemistry, 9, 1 Measurement of effective charge in an organic reaction in solution, 15, 125 Mechanisms, chemical, and three-dimensional structures of enzymes, 0f the microbial hydroxylation of steroids, 11, 371 — of reaction between ultimate chemical carcinogens and nucleic acid, 9, 241 Mechanisms of nucleophilic substitution in aliphatic compounds, 19, 83 Medicinal chemistry of anti-leprosy drugs, 16, 437 MelDOLA MEDAL LECTURE. Fe(CO) ₄ , 7, 527 MelDOLA MEDAL LECTURE. Molecular collisions and the semiclassical ap-	- of reactions in aqueous mixtures,	Macromolecular receptor, designing drugs to fit a, 13, 279
cyclic Schiff base complexes of, 17,69 Laser light scattering, quasielastic, 2,325 Laser spectroscopy of ultra-trace quantities, 8,367 Lasers, tunable, 3,293 Lead, environmental, in perspective, 8,63 LENNARD-JONES LECTURE. Recent experimental and theoretical work on molecularly simple liquid mixtures, 13,173 Leukotrienes; a new class of biologically active compounds including SRS-A, the synthesis of, 11,321 Ligand substitution reactions of square-planar molecules, 14,197 Ligands, cis- and trans-effects of, 2,163 —, compartmental: routes to homoand hetero-dinuclear complexes, 8,199 Light-induced tautomerism of 6-dicarbonyl compounds, 13,69 Liginal substitution reactions of square-planar molecules, 14,197 Ligands cis- and trans-effects of, 2,163 Mechanisms, chemical, and three-dimensional structures of enzymes, 1,319 —, isomerization, of square-planar complexes, 11,371 — of reaction between ultimate chemical carcinogens and nucleic acid, 9,241 Mechanisms of thioacetals, 19,55 — of the microbial hydroxylation of steroids, 11,371 — of reaction in solution, 15,125 Mechanisms, chemical, and three-dimensional structures of enzymes, 1,319 —, isomerization, of square-planar complexes, 11,371 — of reaction between ultimate chemical carcinogens and nucleic acid, 9,241 Mechanisms of nucleophilic substitution in aliphatic compounds, 19,83 Medicinal chemistry of anti-leprosy drugs, 16,437 MelDOLA MEDAL LECTURE. Fe(CO) ₄ , 7,527 MelDOLA MEDAL LECTURE. Fe(CO) ₄ , 7,527 MelDOLA MEDAL LECTURE. Molecular collisions and the semiclassical ap-	Lanthanide shift reagents in nuclear magnetic resonance spectroscopy,	cluster compounds of, 8, 315 Matrix isolation technique and its application to organic chemistry,
Laser spectroscopy of ultra-trace quantities, 8, 367 Lasers, tunable, 3, 293 Lead, environmental, in perspective, 8, 63 LENNARD-JONES LECTURE. Recent experimental and theoretical work on molecularly simple liquid mixtures, 13, 173 Leukotrienes; a new class of biologically active compounds including SRS-A, the synthesis of, 11, 321 Ligands, cis- and trans-effects of, 2, 163—, compartmental: routes to homoand hetero-dinuclear complexes, 8, 199 Light-induced tautomerism of β-dicarbonyl compounds, 13, 69 Lignans and neolignans, the synthesis of Capture of the microbial hydroxylation of steroids, 11, 371 Mechanisms, chemical, and three-dimensional structures of enzymes, 1, 319 —, isomerization, of square-planar complexes, 9, 185 — of hydrolysis of thioacetals, 19, 55 — of the microbial hydroxylation of steroids, 11, 371 — of reaction between ultimate chemical carcinogens and nucleic acid, 9, 241 Mechanisms, chemical, and three-dimensional structures of enzymes, 1, 319 —, isomerization, of square-planar complexes, 11, 371 — of the microbial hydroxylation of steroids, 11, 371 — of reaction between ultimate chemical carcinogens and nucleic acid, 9, 241 Mechanisms, chemical, and three-dimensional structures of enzymes, 1, 319 —, isomerization, of square-planar complexes, 11, 379 — of hydrolysis of thioacetals, 19, 55 — of the microbial hydroxylation of steroids, 11, 371 — of reaction between ultimate chemical carcinogens and nucleic acid, 9, 241 Mechanisms, chemical, and three-dimensional structures of enzymes, 1, 319 —, isomerization, of square-planar complexes, 9, 185 — of hydrolysis of thioacetals, 19, 55 — of the microbial hydroxylation of steroids, 11, 371 Mechanisms, chemical, and three-dimensional structures of enzymes, 1, 319 —, isomerization, of square-planar complexes, 9, 185 — of the microbial hydroxylation of steroids, 11, 371 Mechanisms, chemical, and three-dimensional structures of policy properties. 9, 185 — of hydrolysis of thioacetals, 19, 52 — of the microbial hydroxylation of steroids, 11, 371 Mec	cyclic Schiff base complexes of,	an organic reaction in solution,
—, isomerization, of square-planar complexes, 9, 185 Lead, environmental, in perspective, 8, 63 LENNARD-JONES LECTURE. Recent experimental and theoretical work on molecularly simple liquid mixtures, 13, 173 Leukotrienes; a new class of biologically active compounds including SRS-A, the synthesis of, 11, 321 Ligand substitution reactions of square-planar molecules, 14, 197 Ligands, cis- and trans-effects of, 2, 163 —, compartmental: routes to homoand hetero-dinuclear complexes, 8, 199 Light-induced tautomerism of β-dicarbonyl compounds, 13, 69 Lignans and neolignans, the synthesis of complexes, 3, 293 —, isomerization, of square-planar complexes, 9, 185 — of the microbial hydroxylation of steroids, 11, 371 — of reaction between ultimate chemical carcinogens and nucleic acid, 9, 241 Mechanisms of nucleophilic substitution in aliphatic compounds, 19, 83 Meldicinal chemistry of anti-leprosy drugs, 16, 437 Meldola Medal Lecture. Chemical aspects of glycoproteins, proteogly-cans, and carbohydrate-protein complexes of human tissues, 2, 355 Meldola Medal Lecture. Fe(CO) ₄ , 7, 527 Meldola Medal Lecture Molecular collisions and the semiclassical ap-	Laser light scattering, quasielastic, 2, 325	Mechanisms, chemical, and three-
Lead, environmental, in perspective, 8, 63 Lennard-Jones Lecture. Recent experimental and theoretical work on molecularly simple liquid mixtures, 13, 173 Leukotrienes; a new class of biologically active compounds including SRS-A, the synthesis of, 11, 321 Ligand substitution reactions of square-planar molecules, 14, 197 Ligands, cis- and trans-effects of, 2, 163 —, compartmental: routes to homoand hetero-dinuclear complexes, 8, 199 Light-induced tautomerism of β-dicarbonyl compounds, 13, 69 Lignans and neolignans, the synthesis collisions and the semiclassical ap-	quantities, 8, 367	, isomerization, of square-planar
LENNARD-JONES LECTURE. Recent experimental and theoretical work on molecularly simple liquid mixtures, 13,173 Leukotrienes; a new class of biologically active compounds including SRS-A, the synthesis of, 11, 321 Ligand substitution reactions of square-planar molecules, 14, 197 Ligands, cis- and trans-effects of, 2, 163 —, compartmental: routes to homoand hetero-dinuclear complexes, 8, 199 Light-induced tautomerism of β-dicarbonyl compounds, 13, 69 Lignans and neolignans, the synthesis of molecular tion in aliphatic compounds, 13, 69 MELDOLA MEDAL LECTURE. Chemical aspects of glycoproteins, proteogly-cans, and carbohydrate-protein complexes of human tissues, 2, 355 MELDOLA MEDAL LECTURE. Fe(CO) ₄ , 7, 527 MELDOLA MEDAL LECTURE. Molecular collisions and the semiclassical ap-	Lead, environmental, in perspective,	— of hydrolysis of thioacetals, 19, 55
Leukotrienes; a new class of biologically active compounds including SRS-A, the synthesis of, 11, 321 Ligand substitution reactions of square-planar molecules, 14, 197 Ligands, cis- and trans-effects of, 2, 163 —, compartmental: routes to homoand hetero-dinuclear complexes, 8, 199 Light-induced tautomerism of β-dicarbonyl compounds, 13, 69 Lignans and neolignans, the synthesis	LENNARD-JONES LECTURE. Recent experimental and theoretical work on molecularly simple liquid	steroids, 11, 371 of reaction between ultimate chemical carcinogens and nucleic
Ligand substitution reactions of square-planar molecules, 14, 197 Ligands, cis- and trans-effects of, 2, 163 —, compartmental: routes to homoand hetero-dinuclear complexes, 8, 199 Light-induced tautomerism of β-dicarbonyl compounds, 13, 69 Lignans and neolignans, the synthesis	Leukotrienes; a new class of biologi- cally active compounds including	Mechanisms of nucleophilic substitution in aliphatic compounds, 19, 83
—, compartmental: routes to homo- and hetero-dinuclear complexes, 8, 199 Light-induced tautomerism of β-dicar- bonyl compounds, 13, 69 Lignans and neolignans, the synthesis cans, and carbohydrate-protein com- plexes of human tissues, 2, 355 MELDOLA MEDAL LECTURE. Fe(CO) ₄ , 7, 527 Meldola Medal Lecture. Molecular collisions and the semiclassical ap-	Ligand substitution reactions of	drugs, 16, 437
8, 199 Light-induced tautomerism of β-dicarbonyl compounds, 13, 69 Lignans and neolignans, the synthesis collisions and the semiclassical ap-	, compartmental: routes to homo-	cans, and carbohydrate-protein com-
bonyl compounds, 13, 69 Meldola Medal Lecture. Molecular collisions and the semiclassical ap-	8, 199	MELDOLA MEDAL LECTURE. Fe(CO)4,
	bonyl compounds, 13, 69 Lignans and neolignans, the synthesis	MELDOLA MEDAL LECTURE. Molecular collisions and the semiclassical ap-

MELDOLA MEDAL LECTURE. Molecular Mixed-valence complexes, the chem-7, 507 istry and spectroscopy of. MELDOLA MEDAL LECTURE. N.m.r. Modern methods for the introduction spectral change as a probe of of fluorine into organic molecules: chlorophyll chemistry, 6, 467 an approach to compounds with MELDOLA MEDAL LECTURE. Organoaltered chemical and biological transition complexes incorporating activities. 16, 381 17, 271 Molecular aspects of biological MELDOLA MEDAL LECTURE. Redox re-8, 389 surfaces, sponsive macrocylic receptor molecu- beam reactive scattering, 11, 1 les containing transition metal redox - collisions and the semiclassical approximation. orbital theory, comparison with MELDOLA MEDAL LECTURE. Ring-stackrotational and vibrational spectroing and ring-laddering in organoscopy in conformational analysis of nitrogenlithium compounds: the development of concepts with wide alcohols and amines 5, 411 recognition by synthetic reapplicability throughout lithium 15, 63 structural chemistry, 20, 167 ceptors, MELDOLA MEDAL LECTURE. Therelation-7,507 shapes, tectonics, the construction of polyship between metal carbonyl clusters and supported metal catalysts, 10, 159 hedral clusters, 13, 353 7, 345 Meldrum's acid, structure and organoleptic qual-Metal carbonyl clusters, relationship 7, 167 ity, - theory of small systems, with supported metal catalysts, 12, 251 10, 159 wavefunctions, chemical intercentres, hydrocarbon reactions pretations of. 15, 449 11, 283 Molecules, the size of, at, - clusters in biology, 10, 455 Molybdenum and tungsten; alkoxy, Metal-metal bonding and metalloboramido, hydrazido, and related com-3, 231 pounds of, 7, 377 bonds of various orders, synergic Monoalkyltriazenes, Morphogenesis, biological, the physical interplay of experiment and theory 12, 35 10, 491 in studying, chemistry of, Metal-ion-promoted of Motion, molecular, and time-correlareactions 6, 345 organo-sulphur compounds, tion functions, 9, 429 1-D Metallic complexes, Multistability in open chemical reac-5, 359 Metalloboranes and metal-metal bondtion systems, 3, 231 Myoglobin and haemoglobin, electron bonds, multiple (especially quad-12, 387 spin resonance of, ruple), Natural products from echinoderms, interactions in transition-metal complexes containing infinite chains -, polycyclic polysubstituted, of metal atoms. 1,99 Metallocenes Reaction Intersystematic development of strategy as 17, 453 6, 413 mediates. in. 6, 139 Neighbouring-group effects and ring Metals, binding to proteins, Methyl group removal in steroid conformation, development 3, 1 biosynthesis, 10, 435 Haworth's concepts of, Micelle-forming surfactant solutions, participation, energetics of, 2, 295 photophysics of molecules in, 6, 25 Neutron scattering techniques, small Micelles in aqueous solution, Microbes, use in the petrochemical angle, recent developments in the characterization of oxide sols, 15, 335 Micro-organisms, protein production 8, 143 New insights into aliphatic nucleoby,

philic substitution reactions from the use of pyridines as leaving groups, 13, 47
New perspectives in surface chemistry
and catalysis, 6, 373 Nitrile sulphides, the chemistry of, 18, 33
Nitrogen fixation, 1, 121 S-Nitrosation and the reactions of S-
nitroso compounds, 14, 171
Nitroso-alkenes and nitroso- alkynes, 12, 53
C-Nitroso-compounds, electrophilic, 6, 1
istry of, co-ordination chem-
N.m.r. and vibrational spectroscopic studies, structure in solvents and
solutions, 12, 1 Non-bonded interactions of atoms in
organic crystals and molecules,
Non-conventional electrophilic aromatic substitutions and related reac-
tions, 3, 167
Non-enzymatic transformations involving symmetrical bifunctional compounds, 19, 1
Nuclear magnetic resonance and the periodic table, 5, 1
thetic studies, — carbon-13, in biosyn- 4, 497 — methods (new) for tracing the future of hydrogen in
biosynthesis, 8, 539 — spectral change as a
probe of chlorophyll chemistry, 6 , 467 —————————————————————spectroscopy, lan-
thanide shift reagents in, 2, 49
laxation, 4, 401 ————————————————————————————————————
quadrupole interactions in
solids. 15, 225
Nucleic acid, mechanisms of reaction with ultimate chemical carcinogens, 9, 241
Nucleophiles, reactivity of substituted aliphatic nitro-compounds with,
Nucleophiles, reactivity of substituted aliphatic nitro-compounds with, 17, 285 Nucleosides and nucleotides, pyrim-
Nucleophiles, reactivity of substituted aliphatic nitro-compounds with, 17, 285

NYHOLM MEMORIAL LECTURE. Chemical education research: facts, findings, and consequences, NYHOLM MEMORIAL LECTURE. Conceptions, misconceptions, and alternative frameworks in chemical educa-NYHOLM MEMORIAL LECTURE. Forward from Nyholm's March On Lecture, 3, 373 NYHOLM MEMORIAL LECTURE. Growth, change, challenge, 5, 253 NYHOLM MEMORIAL LECTURE. New trends in chemical education and chemistry teacher education worldwide. 17, 135 NYHOLM MEMORIAL LECTURE. Ring, cage, and cluster compounds of the main group elements. NYHOLM MEMORIAL LECTURE. Solving chemical problems, NYHOLM MEMORIAL LECTURE. Synergic interplay of experiment and theory in studying metal-metal bonds of various orders, NYHOLM MEMORIAL LECTURE. Synthesis, structure, and spectroscopy of metal-metal dimers, linear chains, and dimer chains.

Olefin metathesis and its catalysis, 4, 155 Olefinic compounds, photochemistry 3, 329 On first looking into nature's chem-I The role of small molecules and ions: the transport 9, 281 elements, II The role of large molecules, especially proteins, 9, 325 Organic chemistry of superoxide, 6, 195 Organic reaction paths: a theoretical approach, 13, 1 Organoboranes as reagents for organic 3, 443 synthesis, preparation of, Organoborates in organic synthesis: the use of alkenyl-, alkynyl-, and cyano-borates as synthetic intermediates. 6, 393 Organometallic chemistry and homogeneous catalysis, the 16 and 18

Organosulphur compounds, metal-Photoelectron spectroscopic studies of 6, 345 ion-promoted reactions of. electrode and related structures, Organotransition complexes in-17, 271 Photophysical and photochemical procorporating bismuth, Organotransition-metal perties of flavins (isoalloxazimes), redox reac-11, 15 tions, synthetic applications of, Photophysics of molecules in micelle-18, 153 Organotransition-metal complexes: forming surfactant solutions, 7, 453 stability, reactivity, and orbital Plant growth, control by chemicals, correlations. 2, 271 Orthoesters and dialkoxycarbenium Plastocyanin, structure and electronions: reactivity, stability, structure, transfer reactivity of the blue copper and new synthetic applications, 16, 75 Overtone spectroscopy Platinum metal complexes, n⁵-cycloand pentadienyl and n6-arene as protectmolecular reactions, 17, 31 Oxide catalysts, oxidative coupling of ing ligands towards, 18, 251 methane using, Polyatomic cations, spectroscopic Oxygen, singlet molecular, 10, 205 structure of open-shell, 17, 45 Polyatomic molecular ions studied PEDLER LECTURE. Organic polywith synchrotron radiation, dynamic (sulphur-nitrogen) chemistry, decay properties of electronic excited PEDLER LECTURE. Porphyrins 19, 439 states. related ring systems, 4, 1 Polyelectrodes: the behaviour and ap-Peroxonium ions and dioxygen ylides, plications of mixed redox systems, the chemistry of, 14, 399 15, 141 Phase boundaries, reactivity of organic Polyhedral clusters, the construction 13, 353 molecules at, Phase equilibrium and interfacial struc-Polymer solutions, dielectric relaxation ture. 14, 121 Phenols, anionic cyclization of, 12, 213 supports, insoluble, use in organic long-chain, of non-isoprenoid chemical synthesis, origin. 8, 499 Polymerization and copolymerization Philosophy of chemistry, some conof butadiene, 5, 203 siderations, Polymerization organized Phosphates, aluminium, the chemistry 14, 45 systems, and binding properties of, Polymers, conductivity and supercon-Phosphorus compounds, tervalent, in ductivity in, 3, 87 organic synthesis, Polymers, recent advances in Photochemistry of azobenzene and its photo-oxidation and stabilization 1,481 15, 373 derivatives. of carbonyl compounds, 1,465 Polyolefins, commercial, photodegrada-6,63 4, 533 of imines. tion and stabilization of, 3, 329 of olefinic compounds, Poly(pyrrole) as a support for electro- of organic sulphur compounds, catalytic materials, 20, 391 4, 523 Polysaccharides, structural studies of, of polyoxometallates of molyb-10, 409 and/or Poly(sulphur-nitrogen) chemistry, ordenum and tungsten 15, 1 vanadium, 18, 1 ganic. of the uranyl ion, 3, 139 Porphyrins and related ring systems, 4, 1 of transition-metal co-ordination Post-B₁₂ problems in corrin synthesis, compounds-a survey, 1, 241 5, 377 Photocyclization and photochemistry Potentiometric titrations of aqueous of aryl halides, 10, 181 carbonate solutions. 14, 265 Photodegradation and stabilization of Preparation of organoboranes: rea-4,533 commercial polyolefins, gents for organic synthesis, 3, 443

and properties of isocyanic acid,	Quasielastic laser light scattering, 2, 325
PRESIDENTIAL ADDRESS 1976. Chem-	Radical cations in condensed phases,
istry and the new industrial revolu-	13, 393
tion, 5, 317	processes in nitration by nitric
PRIESTLEY LECTURE. 'On the science of	acid, the range of, 20, 149
deep-sea diving-observations on	- reactions, cobalt-mediated, in or-
the respiration of different kinds of	ganic synthesis, 17, 361
air', 15, 503	Radioactive and toxic wastes: a com-
Product stability in kinetically-con-	parison of their control and
trolled organic reactions, 16, 313	disposal, 4, 90
Properties and syntheses of sweetening	Radioactive waste disposal, the environ-
agents, 6, 431	mental chemistry of, 15, 291
Prostaglandins, tomorrow's drugs,	Radiolysis, pulse, contributions to
4, 589	chemistry, 7, 235
-, thromboxanes, PGX: biosyn-	Raman and infrared vibrational spec-
thetic products from arachidonic	troscopy in inorganic chemistry,
acid, 6, 489	4, 107
Prostanoids, total syntheses of, 2, 29	R. A. ROBINSON MEMORIAL LECTURE.
Protecting ligands, η ³ -cyclopentadienyl	Potentiometric titrations of aqueous
and no-arene towards platinum	carbonate solutions, 14, 265
metal complexes, 10, 1	R. A. ROBINSON MEMORIAL LECTURE.
Protein production by micro-organ-	Thermodynamics of hydrogen-
isms, 8, 143	bonded liquids, 11, 257
Proteins, binding of heavy metals to, 6, 139	Reaction branching and extreme kin- etic isotope effects in the study of
Proteins, role of in nature's chemistry,	reaction mechanisms, 18, 209
9, 325	Reaction mechanisms, four-membered
Prototropic routes to 1,3- and 1,5-	rings and, 5, 149
dipoles, and 1,2-ylides: applications	—, the conversion of ammonium
to the synthesis of heterocyclic com-	cyanate into urea, 7, 1
pounds, 16, 89	Reactions involving the triple bond in
Pulse radiolysis, contributions to chem-	dimolybdenum and ditungsten hexa-
istry, 7, 235	alkoxides and C-C, C-N, C-O triple
Purines, isotopic hydrogen exchange	bonds, 14, 69
in, mechanisms and applications,	Reactive intermediates in enzyme-
10, 329	catalysed reactions, 13, 97
Pyridines as leaving groups, new in-	Reactivities of carbon disulphide,
sights into aliphatic nucleophilic	carbon dioxide, and carbonyl sul-
substitution from the use of,	phide towards some transition-metal
13, 47	systems, 11, 57
Pyrimidine nucleosides and nucleotides,	Reactivity of organic molecules at
5-substituted, 6, 43	phase boundaries, 1, 229
Pyro-compounds, inorganic,	substituted aliphatic nitro-
$M_a[(X_2O_7)_b],$ 5, 269	compounds with nucleophiles,
Pyrrolizidine alkaloids, biosynthesis of,	17, 285
18, 375	Recent advances in the photo-oxida-
Ouadauala handa and athan	tion and stabilization of
Quadruple bonds and other multiple	polymers, 15, 373
metal to metal bonds, 4, 27 Quantitative drug design, 3, 273	Recent advances in the study of kinetic hydrogen isotope effects, 3, 513
	Pagent chamical studies of sadium
Quantum chemistry, computational,	nitroprusside relevant to its hypotensive action, 16, 361
growth of from 1950 to 1971, 2, 21 — mechanical tunnelling in chem-	hypotensive action 16 361
istry, 1, 211	Recent developments in the character-
1, 211	Recent developments in the character-

ization of oxide sols using small Scale insects and aphids, chemistry of, 4, 263 angle neutron scattering techniques, 15, 335 Semistable molecules in the laboratory Recent syntheses in the Vitamin D and in space. 11, 435 9, 449 Silicon compounds in organic synfield. thesis, some uses of, Redox responsive macrocylic receptor molecules -containing carbonyl equivalents, containing transition metal redox centres, 18, 409 11, 493 Redox systems, polyelectrodes: the be-- in organic synthesis, 7, 15 and applications SIMONSEN LECTURE. Cobalt-mediated haviour radical reactions in organic synmixed. 15, 141 17, 361 Research in chemical education: a reasthesis. 1, 27 16 and 18 Electron rule in organometalsessment. Resonant descriptions of bonding and lic chemistry and homogeneous reactivity of group VIII-IB metals 1,337 catalysis. 15, 449 in the solid state, Size of molecules, RESOURCES CONSERVATION BY Small molecules, conformation studies NOVEL BIOLOGICAL PROCES-1, 293 Sodium nitroprusside, recent chemical I Grow fats from wastes, 8, 283 studies of, relevant to its hypotensive II The use of microbes in the 16, 361 action, 1,445 petrochemical industry, Solids, surface energy of, III Utilization of agricultural and Sols, oxide, recent developments in the food processing wastes containcharacterization of, using small angle 8, 309 neutron scattering techniques, 15, 335 ing carbohydrates, Solute-solvent interactions, spectro-Retrosynthetic thinking-Essentials and examples. 17, 111 scopic studies of, Review of chemical education research Solution phenomena, the importance and development in the U.K. of solvent internal pressure and cohe-1972-1976. RHÔNE-POULENC LECTURE. The origin of metals: Solutions of solvated 5, 337 the specificity in the recognition of electrons. oligosaccharides by proteins, 18, 347 Solvent internal pressure and cohesion, Ring, cage, and cluster compounds importance to solution phenomena, 4, 211 main group elements. 8, 315 Solving chemical problems, 11, 171 ROBERT ROBINSON LECTURE. Post-B12 Some considerations on the philosophy problems in corrin synthesis. of chemistry. 5, 203 ROBERT ROBINSON LECTURE. Some recent developments in chemistry 1, 495 trosynthetic thinking—Essentials teaching in schools, and examples, 17, 111 Sonochemistry: Part 1—the physical ROBERT ROBINSON LECTURE. The logic 16, 239 aspects, Sonochemistry: Part 2—the synthetic of working with enzymes, ROBERT ROBINSON LECTURE. Vitamin 16, 275 applications, 9, B₁₂. Retrospect and prospects, Spectra of stars, absorption bands 125 a crystal field approach, Rodent control, chemicals in, 1,381 5, 233 Role of chemically-induced dynamic Spectral lineshapes, collisional transfer electron polarization (CIDEP) in of rotational energy with, 7, 219 chemistry, 8, 29 Spectroscopic structure of open-shell Rotationally and vibrationally inelastic polyatomic cations, 17, 45 scattering of molecules, studies of solute-solvent interac-5, 297 tions, Safety evaluation of natural and syn-Spectroscopy and chemistry of mixedthetic flavourings, 7, 185 valence complexes,

Spectroscopy, electron, 1, 355	Sterols, biosynthesis of, 1, 259
-, Fourier transform, chemical ap-	Structural isomerization in DNA: the
plications of advances in, 4, 569	formation of cruciform structures in
, laser, of ultra-trace quantities,	supercoiled DNA molecules, 18, 53
8, 367	Structure and electron-transfer reac-
, rotational and vibrational, com-	
	tivity of the blue copper protein
parison with molecular orbital	plastocyanin, 14, 283
theory in conformational analysis of	Structure in solvents and solutions—
alcohols and amines, 5, 411	N.m.r. and vibrational spectroscopic
—, threshold electron scattering,	studies, 12, 1
3, 467	- of aqueous solutions of hydro-
Spin-lattice relaxation: a fourth dimen-	phobic solutes, experimental studies
sion for proton n.m.r. spectroscopy,	on, 2, 203
4, 401	Substitution and conformation, effects
Spin trapping of inorganic radicals,	of, on individual CH bond strengths
20, 341	in simple organic compounds, 7,
Square-planar complexes, isomeriza-	399
tion mechanisms of, 9, 185	Sugars, complex formation with
Square-planar molecules, ligand substi-	cations, 9, 415
tution reactions of, 14, 197	Sulphonyl transfer reactions, 18, 123
SRS-A, the synthesis of leukotrienes: a	Sulphoximides, 4, 189
new class of biologically active com-	Sulphoximides—an update, 9, 477
pounds including, 11, 321	Sulphur compounds, organic, photo-
Stability, reactivity, and orbital correla-	chemistry of, 4, 523
tions of organo-transition-metal com-	- organic compounds of, metal-
plexes, 2, 271	ion-promoted reactions of, 6, 345
Stabilization of unusual cationic	species, homonuclear, chemistry
species in protonic superacids and	of, 2, 233
acidic melts, 16, 1	Superconductivity and conductivity in
Stereochemical and conformational	polymers, 5, 95
control of metal redox processes: the	Superoxide, organic chemistry of,6, 195
coordination chemistry of the mixed	Surface chemistry and catalysis, new
N- and S-donor macrocyclic crowns	perspectives, 6, 373
[18]aneN ₂ S ₄ and Me ₂ [18]aneN ₂ S ₄ ,	energy of solids, 1, 445
19, 239	— modified electrodes, 8, 259
Stereochemical aspects of the intramol-	— of a liquid, 7, 329
ecular Diels-Alder reaction, 16, 187	Surfaces, biological, molecular aspects
Stereochemical choice in enzymic reac-	of, 8, 389
tions, 8, 447	, solid, their acidity, 8, 475
Stereoelectronic origins of the intrinsic	Sweetening agents, properties and syn-
barrier to S_N 2 reactions, 19, 133	theses of, 6, 431
Stereoselective synthesis of steroid	Sweeter side of chemistry, 14, 357
side-chains, 12, 75	Symmetry and molecular chirality,
Steric interactions and stereoelectronic	15, 189
effects, a conformational analysis of	Syntheses and properties of sweetening
transition metal η^1 -acyl complexes,	agents, 6, 431
17, 147	
	— of mononuclear cyanocobalt(III)
Steroid biosynthesis, methyl group re-	complexes, 12, 267
moval in, 10, 435	-, recent, in the Vitamin D field,
—, the mechanism of the microbial	9, 449
hydroxylation of, 11, 371	—, total, of prostanoids, 2, 29
, routes to by intramolecular Diels-	Synthesis and chemistry of acyl silanes,
Alder reactions of o-xylylenes, 9, 41	19, 147
- side-chains, stereoselective syn-	Synthesis and cycloadditions, cyano-
thesis of, 12, 75	ketenes, 10, 289
12000 - 0,	10, 20,

-, organic, cobalt-mediated radical hydrate-directed macromolecules. reactions in. 17, 361 8, 221 and synthetic utility of halolac-Teaching of chemistry in schools, some tones. 8, 171 recent developments in, 1,495 -, of corrins, post-B₁₂ problems in Techniques for the kinetic study of fast 5, 377 reactions in solution, 11, 227 of complex oligosaccharide chains Tervalent phosphorus compounds in of glycoproteins, 13, 15 organic synthesis, 3, 87 of heterocyclic compounds, ap-Theoretical models of charge-transfer plications of prototropic routes to 1,3complexes, 15, 475 and 1,5-dipoles, and 1,2-ylides, 16, 89 Thermal, photochemical, and of leukotrienes: a new class of transition-metal mediated routes to steroids by intramolecular Dielsbiologically active compounds including SRS-A, 11, 321 Alder reactions of o-xylylenes (oof lignans and neolignans, 11, 75 quinodimethanes), of polycyclic polysubstituted natural products, systematic de-Thermodynamics of ion-solvent interactions, 9, 381 velopment of strategy in, Thermolysis and photolysis of diazir- organic, enzymes in, 3, 387 11, 127 -, organic, preparation of organo-THOMAS GRAHAM LECTURE. Thomas boranes as reagents for, 3, 443 Graham—would his research be a--, organic, silicon in, 7, 15 unfunded today? 20, 405 , organic, some uses of silicon Three-dimensional structures and chemcompounds, ical mechanisms of enzymes, -, organic, tervalent phosphorus Threshold electron scattering spectrocompounds in, 3, 87 scopy, 3, 467 -, organic, use of inorganic polymer Thromboxanes, prostaglandins, PGX: supports in, 3,65 biosynthetic products of arachidonic organic, the use of organoborates as synthetic intermediates, TILDEN LECTURE. Alkoxy, amido, structure, and vibrational spectra hydrazido, and related compounds of organomethyl compounds, of molybdenum and tungsten, of substituted benzene com-**12,** 331 pounds from acyclic precursors, TILDEN LECTURE. Applications of e.s.r. 13, 441 spectroscopy to kinetics and mech-Synthetic pyrethroids. A new group of anism in organic chemistry, 7,473 insecticides. TILDEN LECTURE. Applications of microroutes to β-lactams, 5, 181 wave dielectric heating effects to syn-Systematic development of strategy in thetic problems in chemistry, the synthesis of polycyclic poly-TILDEN LECTURE. Carbon-carbon substituted natural products: the bond formation involving boron rea-6, 413 aconite alkaloids, gents, 11, 191 LECTURE. Chemistry TATE AND LYLE LECTURE. From carspectroscopy of mixed-complexes, bohydrates to enzyme analogues, 8, 85 TILDEN LECTURE. Concerning stereo-TATE AND LYLE LECTURE. Spin-lattice chemical choice in enzymic reacrelaxation: a fourth dimension for tions. TILDEN LECTURE. n5-Cyclopentadienyl proton n.m.r. spectroscopy, TATE AND LYLE LECTURE. Structural and n6-arene as protecting ligands and conformational characterization towards platinum metal complexes of carbohydrate differentiation an-16, 161 TILDEN LECTURE. Electrophilic C-TATE AND LYLE LECTURE. Transitionnitroso-compounds, 6, 1 TILDEN LECTURE. Initiation of cyclizametal oxide chelates of carbo-

tion using 3-methylcyclohex-2-enone derivatives. TILDEN LECTURE. Molecular beam reactive scattering, 11, 1 TILDEN LECTURE. Molecular recognition by synthetic receptors, 15, 63 TILDEN LECTURE. New perspectives in surface chemistry and catalysis, 6, 373 TILDEN LECTURE. Overtone spectroscopy and unimolecular reactions, 17, 31 TILDEN LECTURE. Semistable molecules in the laboratory and in space, TILDEN LECTURE. Some uses of silicon compounds in organic synthesis, TILDEN LECTURE. Structural studies on bio-active molecules. 13, 131 LECTURE. Structure electron-transfer reactivity of the blue copper protein plastocynanin, 14, 283 TILDEN LECTURE. The collision dynamics of vibrationally excited mole-14, 141 cules, TILDEN LECTURE. The properties of hydrogen-bonded dimers from rotational spectroscopy, 19, 197 Valence LECTURE. in transition-metal complexes, 1, 431 Time-correlation functions and molecular motion, Topological subject—chemistry, 2, 457 Trace constituents of the diet, chemical aspects, organic constituents of the diet. sources and biogenesis, 10, 280 Transimination, chemical models of 12, 309 Transition-metal carbene complexes, chemistry and rôle as reaction inter-2,99 mediates, complexes, containing infinite chains of metal atoms, metal-metal interactions in, complexes of synthetic macrocyclic ligands, 4, 421 complexes, valence in, 1, 431 co-ordination compounds. photochemistry of, 1, 241 hydride complexes, 12, 415 systems, reactivities of carbon disulphide, carbon dioxide, and car-

bonyl sulphide systems towards. 11, 57 oxide chelates of carbohydratedirected macromolecules, 8, 221 Transport properties, hard-sphere theories of, 14, 317 Triple bond in dimolybdenum and ditungsten hexa-alkoxides and C-C, C-N, C-O triple bonds, reactions involving the, 3, 293 Tunable lasers. Two-dimensional nuclear magnetic resonance spectroscopy, 19, 381 Ultraviolet photoelectron spectroscopic studies of molecular interactions, Ultraviolet photoelectron studies of unstable molecules with relevance to synthesis, quantum chemistry, and spectroscopy, Unimolecular reactions, current aspects 12, 163 Uranyl ion, photochemistry of, 3, 139 Use of insoluble polymer supports in organic chemical synthesis, Utilization of agricultural and food processing wastes containing carbohydrates, Valence in transition-metal complexes, Valences, bond, a simple structural model for inorganic chemistry 7, 359 hydrogen bonding, Very strong Vibrational and n.m.r. spectroscopic studies, structure in solvents and solutions, infrared, and Raman spectroscopy in inorganic chemistry, 4, 107 intensities in electronic transitions, 5, 165 spectra, synthesis, and structure of organomethyl compounds, 9, 25 Vibrationally and rotationally inelastic scattering of molecules, Vibrationally excited molecules, the collision dynamics of. Vinylcyclopropane rearrangements. 17, 231

Viologens, electrochemistry of,

retrospects

B₁₂,

Vitamin

prospects,

10, 49

9, 125

and

Index

Vitamin D, chemistry of: the hormonal calciferols, 6, 83
Vitamin D, recent syntheses in, 9, 449
Voltammetric studies of ion transfer across biological membranes, 17, 319

Wittig olefination reaction with car-

bonyl compounds other than aldehydes and ketones, 17, 1

Ylides, arsonium, (with some mention also of arsinimines, stibonium and bismuthonium ylides), 16, 45 Ylides, the chemistry of peroxonium ions and dioxygen, 14, 399

